



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,638	09/29/2003	Jung-Tao Liu	29250-001073/US	1362
7590	05/12/2008		EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. Box 8910 Reston, VA 20195			SINKANTARAKORN, PAWARIS	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			05/12/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/671,638	<b>Applicant(s)</b> LIU, JUNG-TAO
	<b>Examiner</b> PAO SINKANTARAKORN	<b>Art Unit</b> 2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 13 February 2008.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,2,4-9 and 11-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,2,4,6-9,11,13-16 and 18-20 is/are rejected.  
 7) Claim(s) 5, 12, and 17 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date _____                                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. Claims 1, 2, 4-9, 11-20 are currently pending in the application. Claims 3 and 10 have been canceled.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 6, 7, 15, 18, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al. (US 7,120,132).

**Regarding claims 1 and 15,** Choi et al. disclose a method of aligning a plurality of physical channels, comprising:

aligning first and second uplink physical channels based on a timing offset (see FIG 3 and column 7 lines 13-25, aligning  $n$ th UE to the start of the timeslot and aligning  $(n+1)$ th UE to the start of the timeslot); and

transmitting the first and second channels over an uplink at a time instant different than that of a third uplink physical channel (see FIG 3 reference numeral 307 and 49-65, the uplink scrambling code is time-aligned to the 1<sup>st</sup> timeslot, which is different than that of the  $n$ th and  $(n+1)$ th uplink channels), such that subframes of the

first and second channels transmitted in the uplink do not overlap with uplink transmission of a subframe of the third channel (see column 7 lines 63-65);

**regarding claim 2,** the aligning step further includes synchronizing subframe boundaries of the subframes of the first and second uplink physical channels so that the subframes are transmitted in the uplink at a same time instant (see column 8 lines 37-47);

**regarding claims 6 and 18,** the timing offset is a timing offset to align a subframes of a shared control channel with a start of a plurality of subframes of a common control channel that is used as the time reference (see column 2 lines 56-67, the CPICH and the P-CCPCH undergo frame synchronization) for all physical channels received in the downlink or physical channels to be transmitted in the uplink (see column 2 lines 56-67, P-CCPCH is used as reference channels for both uplink and downlink DPCHs);

**regarding claims 7 and 19,** the SCCH is configured to provide control signaling in the downlink to support enhanced uplink (EU) services (see column 2 lines 56-67).

#### ***Claim Rejections - 35 USC § 103***

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

Art Unit: 2616

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 4, 8-11, 13, 14, 16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi et al. in view of Willenegger (US 2006/0141953).

**Regarding claims 4, 11, and 16,** Choi et al. disclose all the subject matter of the claimed invention except the method, wherein the first and second physical channels include a control channel configured to support enhanced uplink (EU) services and a data channel configured to support enhanced uplink (EU) services, and the third physical channel is a control channel configured to support high speed downlink packet access (HSPDA) services.

The invention of Willenegger from the same or similar fields of endeavor disclose a high speed data communications, wherein a first channel is a dedicated physical control channel (DPCCH), a second channel is a dedicated physical data channel (DPDCH) (see paragraph 24, DPCCH and DPDCH), and a third channel is a high speed dedicated physical control channel on the uplink used to support the high speed downlink shared data channel (see paragraph 47, High-Speed Dedicated Physical Control Channel).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the high speed data communications of Willenegger into the apparatus for synchronizing uplink channels.

The motivation for implementing the high speed data communications is that it provides a more efficient apparatus by reducing unnecessary latency by allowing simultaneous transmissions.

**Regarding claims 8 and 20,** Choi et al. disclose all the subject matter of the claimed invention except the method for code multiplexing the first and second physical channels with additional physical channels other than the third physical channel at the different time instant to generate a code-multiplexed signal to be used for uplink transmission.

However, the invention of Willenegger from the same or similar fields of endeavor disclose a method for code multiplexing control channels between an I channel and a Q channel (see paragraph 23-24 and 36).

Thus, it would have been obvious to the person of ordinary skill in the art to implement a code-multiplexing method as taught by Willenegger into the method for synchronizing uplink channels of Choi et al.

The motivation for implementing a code-multiplexing method is that it provides enhanced features and minimizes the complexity.

**regarding claim 9,** the aligning step includes synchronizing subframe boundaries of subframes of the at least two uplink physical channels so that the subframes are transmitted in the uplink at the same time instant (see column 8 lines 37-47);

**regarding claim 13,** the timing offset is a timing offset to align a subframes of a shared control channel with a start of a plurality of subframes of a common control channel that is used as the time reference (see column 2 lines 56-67, the CPICH and the P-CCPCH undergo frame synchronization) for all physical channels received in the downlink or physical channels to be transmitted in the uplink (see column 2 lines 56-67, P-CCPCH is used as reference channels for both uplink and downlink DPCHs);

**regarding claim 14,** the SCCH is configured to provide control signaling in the downlink to support enhanced uplink (EU) services (see column 2 lines 56-67).

#### ***Allowable Subject Matter***

8. Claims 5, 12, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

9. Applicant's arguments filed 2/13/2008 have been fully considered but they are not persuasive.

On page 1 of the Remarks, the Applicant submits that Choi fails to disclose or teach "that subframes of the first and second channels transmitted in the uplink do not overlap with uplink transmission of a subframe of the third channel." The Examiner respectfully disagrees. The structure of the phrase "a subframe of the third channel" is not defined in the claim. Therefore, the Examiner interprets a subframe as a part of the frame in a single time slot. Choi discloses that the start point of the scrambling code is time-aligned to the first slot (Slot #0), which is not time-aligned with the frame start point of the uplink DPCH (see column 7 lines 55-65). Choi also discloses, in Figure 3, time modified nth uplink DPCH 303 and (n+1)th uplink DPCH 306 have frame start points of Slot #3 and Slot #4, respectively. Therefore, the UL DPCH 303 and 306 do not overlap the scrambling code uplink DPCH in at least the subframes of Slot #0 – Slot #2, which reads on the limitation "such that subframes of the first and second channels transmitted in the uplink do not overlap with uplink transmission of a subframe of the third channel."

Thus, in view of the above reasonings, the Examiner believes the rejections should be sustained.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure

relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAO SINKANTARAKORN whose telephone number is (571)270-1424. The examiner can normally be reached on Monday-Thursday 9:00am-3:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pao Sinkantarakorn/  
Examiner, Art Unit 2616

/Ricky Ngo/  
Supervisory Patent Examiner, Art  
Unit 2616

PS